

AMENDMENTS TO THE CLAIMS

This listing will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A ~~[[M]]~~ method for controlling the reaction temperature in a catalytic bed (24) of a reactor (1) in which a chemical reaction takes place in pseudo-isothermal conditions by means of at least one heat exchanger (12), crossed by a respective operating fluid~~[[,]]~~ immersed in said catalytic bed (24), ~~which method is characterized in that it comprises~~ comprising the step of:

setting the ~~speed~~ velocity of said heat exchange fluid inside the respective heat exchanger (12) within predetermined values, so that the heat ~~exchange~~ transfer coefficient inside said heat exchanger (12) is less than the heat ~~exchange~~ transfer coefficient in the catalytic bed (24).

2. (Currently amended) The ~~[[M]]~~ method according to claim 1, ~~characterized in that~~ wherein said ~~speed~~ velocity of said heat exchange fluid inside the respective heat exchanger is regulated within values such that the heat ~~exchange~~ transfer coefficient inside the heat exchangers (12) is equal to or less than 2/3 the heat ~~exchange~~ transfer coefficient inside the catalytic bed (24).

3. (Currently amended) The ~~[[M]]~~ method according to claim 1, ~~characterized in that~~ wherein said reactor (1) comprises at least two heat exchangers (12) immersed in the catalytic bed (24) and ~~in that it~~ wherein the method further comprises the steps of:

continuously detecting in said catalytic bed the temperature difference ΔT between the temperature of the catalytic bed at said heat exchangers and a limit temperature T_1 , at a middle point between said heat exchangers; and

varying the ~~speed~~ velocity of said heat exchange fluid inside said heat exchangers, according to the aforementioned temperature difference ΔT , obtaining a corresponding variation of the heat ~~exchange~~ transfer coefficient inside said heat exchangers.

4. (Currently amended) A ~~[[P]]~~ pseudo-isothermal chemical reactor comprising:

a catalytic bed; ~~(24)~~ and
at least two heat exchangers ~~(12)~~ immersed in said catalytic bed; and ~~(24)~~, characterized
~~in that it comprises~~
an apparatus ~~(20)~~ for adjusting the temperature inside a reaction zone ~~(15)~~ of said
catalytic bed defined between said heat exchangers ~~(12)~~, comprising
a probe ~~(23)~~ for continuously measuring the temperature difference ΔT between
the temperature in a central position of said zone ~~(15)~~ and the temperature of said
reaction zone ~~(15)~~ at said heat exchangers ~~(12)~~,
a control unit ~~(21)~~, in data communication with said probe ~~(23)~~, and
a feeding speed velocity regulator ~~(22)~~ of ~~for~~ an operating fluid (F_o) in said heat
exchangers ~~(12)~~, in data communication with said control unit ~~(21)~~.